

**RESOLUTION NO. 2021-45**

**A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF KEY BISCAYNE, FLORIDA, AUTHORIZING THE VILLAGE MANAGER TO ISSUE A WORK ORDER TO MOFFATT & NICHOL, INC. FOR ENGINEERING, SURVEYING, AND MARINE BIOLOGICAL SERVICES RELATING TO THE BEACH RENOURISHMENT PROJECT IN AN AMOUNT NOT TO EXCEED \$63,150; AND PROVIDING FOR AN EFFECTIVE DATE.**

**WHEREAS**, the Village of Key Biscayne (“Village”) issued Request for Qualifications No. 2021-08 (“RFQ”) for continuing professional services relating to architecture and engineering services; and

**WHEREAS**, pursuant to the RFQ, the Village Council selected Moffatt and Nichol, Inc. (the “Consultant”) as one of the consultants to provide continuing professional services relating to architecture and engineering services and authorized the Village Manager to execute an agreement with Consultant; and

**WHEREAS**, the Village Council requires professional services relating to engineering, surveying, and marine biological services for annual monitoring of the beach renourishment project (the “Services”); and

**WHEREAS**, the Consultant has provided a proposal, attached hereto as Exhibit “A,” (the “Proposal”) for the Services; and

**WHEREAS**, the Village Council desires to authorize the Village Manager to issue a work order for the Services consistent with the Proposal, attached hereto as Exhibit “A,” and the continuing professional services agreement entered into between the Village and Consultant; and

**WHEREAS**, the Village Council finds that this Resolution is in the best interest and welfare of the residents of the Village.

**NOW, THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE**


**VILLAGE OF KEY BISCAYNE, FLORIDA, AS FOLLOWS:**

**Section 1.** **Recitals.** That each of the above-stated recitals are hereby adopted, confirmed, and incorporated herein.

**Section 2.** **Authorization.** The Village Manager is hereby authorized to issue a work order to the Consultant for the Services consistent with the Proposal attached hereto as Exhibit "A" and the continuing professional services agreement in an amount not to exceed \$63,150.00.

**Section 3.** **Effective Date.** That this Resolution shall be effective immediately upon adoption.

PASSED and ADOPTED this 12<sup>th</sup> day of October, 2021.

  
MICHAEL W. DAVEY, MAYOR

ATTEST:

  
JOCELYN B. KOCH  
VILLAGE CLERK



APPROVED AS TO FORM AND LEGAL SUFFICIENCY:

  
WEISS SEROTA HELFMAN COLE & BIERMAN, P.L.  
VILLAGE ATTORNEY



<b>Contractor's Name:</b> Moffatt & Nichol	<b>Date:</b> 10/27/21
<b>Prepared By:</b> Roland Samlmy	<b>Contract #:</b> 2021-08-02
<b>Title:</b> Chief Resiliency and Sustainability Officer	<b>Proposed Completion Date:</b>

**(Describe Work to be performed in as much detail as possible)**

**Biological and physical monitoring tasks required in the Summer of 2021 to fulfill environmental permit conditions related to the 2021 renourishment event.**

(Calculate using the Rate Schedule included in Contract)

Item No.	Description	Unit Price	Quantity	Extended Price
	Professional Services			\$63,150
			<b>Total Price</b>	<b>\$63,150</b>

**All Work must be performed in accordance with the Contract terms and conditions.**

J.K. BLANKENSHIP  
Name of Authorized Representative  
MOFFATT & NICKOL

STEVEN C. WILLIAMSON  
Name of Authorized Representative



2937 SW 27<sup>th</sup> Avenue, Suite 101A  
Miami, FL 33133  
  
(305) 230-1924  
[www.moffattnichol.com](http://www.moffattnichol.com)

September 13, 2021

Mr. Jake Ozyman, P.E.  
Director of Community Development  
**Village of Key Biscayne**  
88 West McIntyre Street, Suite 210  
Key Biscayne, FL 33149

Via email: [jozyman@keybiscayne.fl.gov](mailto:jozyman@keybiscayne.fl.gov)

**Subject: CONSULTING SERVICES RELATIVE TO THE VILLAGE OF KEY BISCAYNE BEACH  
RENOURISHMENT, MIAMI-DADE COUNTY, FLORIDA**

Dear Mr. Ozyman:

This is to submit a proposal for consulting services relative to the Village of Key Biscayne (Village) Beach Renourishment Project (Project). This scope of work includes biological and physical monitoring tasks required in the Summer of 2021 to fulfil environmental permit conditions related to the 2021 renourishment event. The following work tasks outline the scope of services to be performed for the Village by M&N:

#### **EXHIBIT "A" – SCOPE OF SERVICES**

##### **Part 1 – 2021 Biological Monitoring**

The M&N team shall conduct a biological monitoring survey to delineate the approximate western extent of seagrass and a qualitative survey for seagrass in accordance with the Biological Monitoring Plan (BMP) for the 2021 Village of Key Biscayne Beach Renourishment Project revised August 3, 2020. The survey limits are from FDEP survey control monuments R-102 through R-108 with control areas south of R-110 and north of R-100 and shall follow the methodology for marine benthic surveying based on the National Marine Fisheries Service (NMFS) Recommendations for Sampling *Halophila Johnsonii* at a Project Site (NMFS, 2002), using the "large area" protocol and consistent with past survey methods using the Braun Blanquet (BB) technique.

The western seagrass edge mapping shall occur adjacent to the re-nourishment area between FDEP survey control monuments R-102 and R-108. Approximately 5,425 feet (1,654 meters) of shoreline shall be surveyed to locate the western extent of the submerged aquatic vegetation (SAV). The western edge shall be delineated and recorded using Differential Global Positioning System (DGPS) for analysis and mapping purposes.

Snorkeling and SCUBA will be utilized for all transects and shoreline delineation. Tidal conditions may influence the pace at which the effort can be accomplished. Should adverse conditions be encountered, additional time may be required. This would be necessary if extreme tides, Village events, marine/pedestrian traffic, and/or poor visibility are encountered, which would make surveying this area dangerous and pose a safety risk to staff. **Please note that additional time if required to survey these areas shall require additional fees.**

- a. **2021 Biological Monitoring:** M&N will coordinate with Smart-Sciences, Olin Hydrographic Solutions, Inc., and the county, state and federal regulatory agencies relative to the biological monitoring event to be conducted in the summer of 2021, as well as perform associated analysis and reporting. July is noted as the preferred month for completion of the biological survey fieldwork in the FDEP-approved BMP dated August 3, 2020; however, within the timeframe of June 1<sup>st</sup> to September 30<sup>th</sup> is acceptable. M&N will coordinate with Smart-Sciences and the regulatory agencies relative to data collection methodology and analysis scope based on the updated FDEP-approved BMP. Miami-Dade County DERM requires a summer 2021 post-construction monitoring survey and report with comparison to the 2020 pre-construction data set.

*Please refer to scope of work described by our subconsultants (Smart Sciences, Inc. and Olin Hydrographic Solutions, Inc.) in Attachment 1 of this proposal.*

- b. **2021 Biological Monitoring Report:** M&N will coordinate with Smart-Sciences for the drafting of the Biological Monitoring Report. M&N will also provide quality control reviews. The final monitoring report will be produced and submitted by Smart-Sciences. M&N will assist in organizing the pertinent submittals to each agency, per their pre-construction and/or post-construction reporting requirements.
- c. **2021 Biological Monitoring Meetings:** M&N will participate in conference calls and meetings as requested by the regulatory agencies and/or directed by the Village to review the post-construction monitoring/pre-construction biological survey schedule and process and to address any questions or concerns. Approximately fourteen (14) hours are budgeted for this effort. If additional meetings are required, these will be provided under an addendum scope of services.

## **Part 2 – 2021 Physical Monitoring**

- a. **2021 Post-Construction Physical Monitoring Report:** M&N will prepare an engineering report that will include the pre/post-construction beach profile data collected by the contractor to prepare the as-built survey for the Project. The report will summarize and discuss the data, the performance of the beach fill project, and identify erosion and accretion patterns within the monitored area. In addition, the report will include a comparative review of project performance to performance expectations and identification of any adverse impacts attributable to the project. The appendices of the report will include plots of survey profiles and graphical



representations of volumetric and shoreline position changes for the monitoring area. The results will be analyzed for patterns, trends, or changes between annual surveys and cumulatively since project construction. The report will be compiled and distributed to the environmental regulatory agencies for permit compliance within 90 days following the monitoring survey.

*Deliverable: Physical Monitoring Coastal Engineering Report (signed/sealed by a Florida Professional Engineer)*

- b. **2021 Physical Monitoring Meetings:** M&N will participate in conference calls and meetings as requested by the regulatory agencies and/or directed by the Village to review the pre-construction physical survey scope, schedule or other aspects of the process and to address any questions or concerns. Approximately twelve (12) hours are budgeted for this effort. If additional meetings are required, these will be provided under an addendum scope of services.

#### **GENERAL**

##### **Contract Terms**

This proposal is subject to the contract terms within the "Agreement" dated \_\_\_\_\_, with the Village. While we make every effort to keep our fees within estimates quoted, additional costs may be incurred due to circumstances beyond our immediate control, including but not limited to, rule or procedural changes, Project team or agency staff delays, and legal actions.

##### **Schedule**

The schedule for the Year 1 post-construction biological monitoring/permit compliance consulting services is approximately four (4) months, although the regulatory agencies sometimes take up to 1 year to review the submitted reports.

##### **Professional Fees and Expenses**

Professional Fees are summarized in Table 1. Expenses will be invoiced at cost and are estimated at \$200.

If you wish for us to provide these services, please provide a work order in the standard format for this Project, which will serve as our Authorization to Proceed. Should you have any questions regarding this proposal, please do not hesitate to contact me at (786) 725-4180 or [tblankenship@moffattnichol.com](mailto:tblankenship@moffattnichol.com).

Sincerely,  
**Moffatt & Nichol, Inc.**



Tim Blankenship, P.E.  
Business Unit Leader

TKB:CJB:AW

Enclosure: Attachment 1

**Table 1 Professional Fees**

<b>Part</b>	<b>Description</b>	<b>Type</b>	<b>Fee</b>
<b>1</b>	<b>2021 Biological Monitoring</b>		
<b>1a</b>	2021 Biological Monitoring	Lump Sum	\$27,000.00
<b>1b</b>	2021 Biological Monitoring Report	Lump Sum	\$18,800.00
<b>1c</b>	2021 Biological Monitoring Meetings	Hourly, Est.	\$2,850.00
<b>2</b>	<b>2021 Physical Monitoring</b>		
<b>2a</b>	2021 Post-Construction Physical Monitoring Report	Lump Sum	\$7,750.00
<b>2b</b>	2021 Physical Monitoring Meetings	Hourly, Est.	\$2,400.00
	Biological Survey Contingency Day (if reqd.)	Lump Sum	\$4,150.00
	Reimbursable Estimate		\$200.00
	<b>TOTAL FEE ESTIMATE</b>		<b>\$63,150.00</b>

## Attachment 1



June 28, 2021

Abbie Wilson, P.E.  
Moffatt & Nichol  
2937 SW 27<sup>th</sup> Ave, Suite 101A  
Miami, Florida 33133

Sent via e-mail to [awilson@moffattnichol.com](mailto:awilson@moffattnichol.com)

**Subject: Proposal for 2021 Post-Construction Biological Monitoring  
Village of Key Biscayne Beach Renourishment Project  
FDEP Permit No. 0160846-021-JN  
From FDEP Survey Control Monument R-102 to R-108, S. of R-110, N. of R-100  
Village of Key Biscayne, Miami-Dade County, Florida  
Smart-Sciences Proposal No. 273-001-P**

Dear Ms. Wilson:

Smart-Sciences, Inc. (Smart-Sciences) is pleased to submit this proposal to Moffatt & Nichol (Client) for post-construction biological monitoring for the above referenced project. Smart-Sciences will conduct post-construction biological monitoring to delineate the western seagrass edge and evaluate the composition and density of the seagrass waterward of the project location along permanent transects. Completion of construction/sand placement was achieved during the early months of 2021. Post construction biological monitoring is required annually for a total of three years. The first annual post-construction survey will be performed by Smart-Sciences in the summer of 2021. The data collected during the proposed post-construction biological monitoring will be analyzed in comparison to the data collected during the Pre-Construction Biological Monitoring Survey (conducted by Smart-Sciences, August 2020) to document the ecological conditions post-construction, and to determine if unanticipated impacts to the seagrass community occurred due to the project construction activities or due to fill equilibration. Included in the proposal is an outline of the project information provided to us, the scope of services, our fee, the schedule, authorization procedures, and the terms and conditions governing the project.

#### **Background Information**

The project location is within the Village of Key Biscayne between Florida Department of Environmental Protection (FDEP) survey control monuments R-102 and R-108, approximately 5,425 feet (1,654 meters) of coastline, with control monitoring site located south of R-110, north of R-100. A Biological Monitoring Plan (BMP) was prepared in support of the Village of Key Biscayne's shore protection project in Miami-Dade County, Florida. The goals of the BMP include delineating the western edge of the nearshore seagrass community offshore of the project area and estimating percent cover and species composition of seagrasses along perpendicular permanent transects within the project area.

The Miami-Dade County Regulatory and Economic Resources, Department of Environmental Resources Management (DERM), FDEP, and United States Army Corp of Engineers (USACE) permits require

biological monitoring in accordance with the approved project specific BMP. The purpose of the monitoring is to identify unanticipated adverse impacts to submerged aquatic resources that result from construction and/or equilibration of the beach renourishment project. Pre-Construction monitoring is required to document the ecological baseline conditions present prior to commencement of any construction activities for comparison with post-construction monitoring. Post-Construction monitoring is required to document the ecological baseline conditions present after the completion of beach construction activities for three years for comparison with the pre-construction monitoring event.

The following tasks provide for the post-construction monitoring required in accordance with the BMP, which includes monitoring within the immediate area of the project influence, as well as monitoring control areas to document background conditions. FDEP has requested that data collected from the control transects be reported separately from the permit-required survey data that will be collected within the Project area.

### **Proposed Scope of Services**

#### **Task 1 –Biological Monitoring Survey**

Smart-Sciences will conduct a biological monitoring survey to delineate the approximate western extent of seagrass and a qualitative survey for seagrass in accordance with the BMP for Village of Key Biscayne Beach Nourishment Project revised August 3, 2020. Smart-Sciences worked with Moffatt & Nichol and all three regulatory agencies to update the BMP to provide consistent data that could be statistically analyzed. The survey limits are from FDEP survey control monuments R-102 through R-108 with control areas south of R-110 and north of R-100. This effort will follow the methodology for marine benthic surveying based on the National Marine Fisheries Service (NMFS) Recommendations for Sampling *Halophila johnsonii* at a Project Site (NMFS, 2002), using the “large area” protocol and consistent with past survey methods using the Braun Blanquet technique.

The western seagrass edge mapping will occur adjacent to the renourishment area between FDEP survey control monuments R-102 and R-108. Approximately 5,425 feet (1,654 meters) of shoreline will be surveyed to locate the western extent of the submerged aquatic vegetation (SAV). The western edge will be delineated by Smart-Sciences staff and recorded by others using Differential Global Positioning System (DGPS) for analysis and mapping purposes. This effort is anticipated to take two qualified staff biologists two days to complete. Coordination with the survey crew, will occur prior to fieldwork.

The qualitative seagrass community survey will occur within the same survey limits with the addition of six control transects, three located south of FDEP survey control monument R-110 and three located north of survey control monument R-100. Within the renourishment area, 25 transects will be established along the western seagrass edge identified above, spaced approximate 200 feet (60 meters) apart. Each transect will extend east 115 feet (35 meters), visually perpendicular to the shoreline. The beginning of each transect will be located using a handheld Global Positioning System (GPS) by Smart-Sciences and will correspond

with the start of transect locations identified during the pre-construction survey from 2020. Staff will document the seagrass species and estimate the density of seagrasses using the Braun Blanquet technique along each transect. A one-square meter (1m<sup>2</sup>) quadrat will be placed on the substrate every five meters along the north side of the transect tape and seagrass density information will be collected. Eight Braun Blanquet sampling stations will be monitored along each transect for a total of 200 qualitative measurements within the project area. If the seagrass area is a mixed bed, dominant seagrass species and other seagrass species occurring within the seagrass bed will be noted. The density estimate will be for the total seagrass coverage, not for each species separately. The biologists will also note the dominate species of attached macroalgae present within the seagrass bed, substrate composition, and take representative photographs of the survey area. Results will include calculations of density (average cover including zeros), abundance (average cover excluding zeros), and frequency of occurrence (percentage of quadrats containing seagrass) for each transect and also for the project as a whole.

A control group composed of six additional seagrass community monitoring transects will be established approximately 2,000 feet (610 meters) south and north of the project area within Bill Baggs Cape Florida State Park and Crandon Park, respectively. Additional seagrass western edge mapping will be conducted in the control area as well. These six transects and the additional seagrass edge mapping area will be monitored using the same methods described above, resulting in a total of 48 qualitative measurements within the control areas. This information will serve as control data and will be used to distinguish natural sand displacement and natural changes in the seagrass community. The control location was selected because it closely resembles the conditions of the seagrass community within the project area, but is far enough away from the project area to not be directly influenced by transport of the beach fill material.

The qualitative seagrass community survey is anticipated to take two qualified staff biologists four days to complete. A contingency day might be required depending on ocean conditions (i.e., poor visibility, strong currents). Snorkeling and SCUBA will be utilized for all transects and shoreline delineation. Tidal conditions may influence the pace and rate of speed at which the effort can be accomplished. Should adverse conditions be encountered, additional time may be required. This would be necessary if extreme tides, Village events, marine/pedestrian traffic, and/or poor visibility are encountered, which would make surveying this area dangerous and pose a safety risk for staff. Additional time required to survey these areas may incur additional fees, subject to your approval.

This task also includes coordination, mobilization activities for field surveys, and safety briefings.

## **Task 2 – Biological Monitoring Survey Report**

Smart-Sciences will prepare a comprehensive Post-Construction Biological Monitoring Survey Report to document results of the western seagrass edge mapping and qualitative survey conducted in **Task 1**. The report will provide a summary of the results of the biological monitoring survey along with identifying any

adverse impacts attributable to the project. The reports will analyze and discuss observed burial or community changes within the seagrass community based upon the data collected and observations made with comparison to control data. A statistical analysis will be prepared comparing Braun Blanquet data between the August 2020 pre-construction monitoring to the 2021 Post-Construction Biological Monitoring Survey. The reports will include a comparison of the 2020 pre-construction observations with 2021 post-construction observations and a discussion of the findings. If any impacts are identified, the report will include an estimate of the area of impact. A Geographic Information Systems (GIS) base map will be prepared comparing the western edge of seagrass mapped prior to commencement of construction to the western edge of seagrass mapped post-construction. Additional maps depicting the density and species distribution along the transects (25 in project area + six control) based upon the Braun Blanquet data, will also be prepared.

Per the BMP, the reports need to be submitted to FDEP, USACE and DERM within 90 days after the completion of the field survey. Reports need to be presented in hardcopy and electronic format. In addition, collected raw data (Excel, field data sheets in PDF, etc.) will need to be provided to FDEP, USACE, and DERM electronically so that it can be used for processing. The electronic file will also include the Excel and raw field data sheets in PDF.

### **Task 3 – Conference Calls/Meetings/Project Coordination**

Anticipated activities include the following:

- Conference calls with project team
- Coordination/Conference Calls with FDEP, DERM, USACE and the Village of Key Biscayne.

### **Assumptions**

- Beach maintenance access will be provided.
- The fees are inclusive of equipment and reimbursable expenses.
- GPS data will be collected using Florida State Plane East (US Feet) projection and datum of NAD 83.
- GPS collected data will have sub-meter accuracy when differentially corrected.
- If necessary, Moffatt & Nichol will request a variance to conduct the surveys outside of the June 1 and September 30 USACE guidelines.
- Changes to the scope may incur additional fees.

### **Cost of Services**

Smart-Sciences proposes to perform the above scope of services for the following fee estimates:

Task Description	Cost Estimate
Task 1 – Biological Monitoring Survey	\$20,700 (lump sum)
Task 1 – Biological Monitoring Survey Contingency Day (If needed)	\$2,300 (lump sum, if needed)
Task 2 – Biological Monitoring Survey Report	\$15,000 (lump sum)
Task 3 – Conference Calls/Meetings with Agencies and Team	\$1,250 (hourly)

If unforeseen conditions should require services beyond the scope of services described herein, Smart-Sciences will notify you immediately of additional costs necessary to complete the project, prior to proceeding. Services beyond those described herein will be invoiced in accordance with our standard schedule of fees at the applicable rates. Please note that payment of invoices is due upon receipt.

#### Schedule

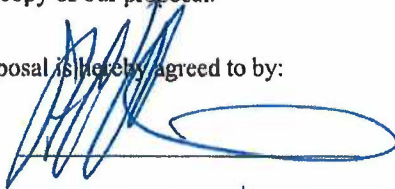
Smart-Sciences will make accommodations to initiate fieldwork once notified to proceed. Smart-Sciences will provide the Biological Monitoring Survey Report (Task 2) within 90 days after concluding the field portion of the survey (Task 1). Smart-Sciences will continue to coordinate closely with Moffatt & Nichol throughout the duration of the project.

#### Authorization

Attached is a copy of our Standard General Conditions for Professional Services Agreement, which is a part of the proposal. If the above scope of services and fees are acceptable, please sign below and return a signed, fully executed copy of our proposal.

The above proposal is hereby agreed to by:

Signature:



Date:

11/3/2021

Name:

Steven C. Williamson

Title:

Village Manager

Company:

Village of Key Biscayne

We appreciate the opportunity to offer our professional services on this project. If you have any questions concerning this proposal, please contact our office at 786-313-3977.

*Proposal for Post-Construction Biological Monitoring  
Village of Key Biscayne Beach Renourishment Project  
From Survey Control Monument R-102 to R-108, S. of R-110, N. of R-100  
Village of Key Biscayne, Miami-Dade County, Florida  
Smart-Sciences Proposal No. 273-001-P*

*June 28, 2021  
Page 6 of 6*

Sincerely,  
**SMART-SCIENCES, INC**



Gisele Colbert, M.S.  
Principal Scientist



Andrea Orozco, M.S.  
Project Scientist

Attachments  
Professional Services Agreement  
Schedule of Fees



## **Olin Hydrographic Solutions, Inc.**

Consulting Engineering, Surveying & Mapping, and Environmental Services  
5952 Senegal Drive, Jupiter, FL 33458  
Phone 1 (305) 619 2800; Fax (305) 860 4411

August 23, 2021

P210823A

Abbie Wilson, PE  
Project Manager  
**Moffatt & Nichol**  
2937 SW 27<sup>th</sup> Ave, Suite 101A  
Miami, FL 33133

**RE: Key Biscayne – Biological Monitoring**

Olin Hydrographic Solutions, Inc. (OHS) is pleased to provide this proposal relative to the services for the above-referenced project.

The following parts describe the scope of work to be performed by OHS and also present the terms of agreement between OHS and Moffatt & Nichol (client).

Please note fees are inclusive of all mobilization and equipment and OHS staff have performed this same survey several times in past years.

**Part 1 – Biological Survey**

- a) **Extent of Sea Grass Mapping:** OHS will work with the environmental biologist to map the extents of the seagrass for this project. It is envisaged that 2 days will be required to complete this task. OHS staff will utilize a Trimble RTK-GPS to position the sea-grass extents as pointed out by the biologist and capture any associated attributes. The survey data will be reduced and supplied to the Biologist in a format that they are able to incorporate into their drawings and reports

**Fees for Part 1 (a) services are lump sum.....\$3,700**

***Additional days will be billed at \$1850/day.***

**GENERAL**

**Schedule:** Part 1 will commence within 2 weeks following our Authorization to Proceed from the Client.

**Fees:** This fee proposal is valid for 60 days. OHS will invoice the Client for Part I service on a lump sum. Invoices are to be paid within thirty (30) days of receipt of the invoice by the Client. Invoices not paid within thirty (30) days and not in dispute shall incur interest at a rate of 1.5 percent per month. The Client agrees to pay any cost of collection including reasonable attorney's fees incurred whether or not a suit is commenced, or an appeal is taken.

We look forward to working with you through the successful implementation of this project. Please return an executed copy of this agreement which will serve as our Authorization to

P210823A  
Moffatt & Nichol  
Key Biscayne Biological Monitoring

Proceed. Should you have any questions regarding this proposal, please contact me at (305)  
619 2800.

Sincerely,

A handwritten signature in dark ink, appearing to read "D. Olin", written in a cursive style.

**OLIN HYDROGRAPHIC SOLUTIONS, INC.**  
David Olin, P.E.  
President

**SIGNED:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
Moffatt & Nichol

## 444

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